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## CERTIFICATE OF MAILING

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Name (Print/Type)	Rose A. Lubich		
Signature	<i>Rose A. Lubich</i>	Date	4-28-05

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.: 6,884,400 B1  
Issued: 04/26/2005  
Inventor(s): Kyle P. Austin et al.  
Title: REACTION AND REGENERATION SYSTEM

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT FOR PTO MISTAKE (37 CFR 1.322(a))

Certificate of Correction Branch  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The above-designated patent issued with the following error.

**In claim 11:** In column 10, line 15, the word "owlet" should be replaced with the word "outlet".

In accord with the requirements of the "Expedited Issuance of Certificates of Correction When the Error is Attributable to the United States Patent and Trademark Office" (Official Gazette, September 17, 2002), Patentee encloses a copy of the Amendment After Allowance dated June 17, 2004, which shows the correct wording of the subject claim.

It is believed that the enclosed documentation unequivocally supports Patentee's assertion that the error incurred through the fault of the PTO. Therefore, the requirements for expedited issuance of the Certificate of Correction are met.

Attached is Form PTO-1050. It is believed that no fee is required.

Respectfully submitted,

UQP LLC

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MAM:sb

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

PATENT NO.: 6,884,400 B1  
DATED: 04/26/005  
INVENTORS: Kyle P. Austin et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The above-designated patent issued with the following error in claim 11:

**In claim 11:** In column 10, line 15, the word "owlet" should be replaced with the word "outlet".

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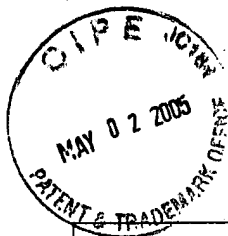
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PATENT NO. 6,884,400 B1

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Name (Print/Type)	Susan G. Burt	Fax No. (703) 872-9306
Signature	<i>Susan G. Burt</i>	Date June 17, 2004

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of	)	Docket No.:	106184
Kyle P. Austin et al.	)		
	)	Notice of Allowance Dated:	03/30/2004
Application No.: 09/887,497	)		
	)	Confirmation No.:	7706
Filed: 06/22/2001	)		
	)	Examiner:	Johnson, Jonathon J.
REACTION AND	)		
REGENERATION SYSTEM	)	Art Unit	1725

**AMENDMENT AFTER ALLOWANCE**

**37 CFR §1.312**

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Washington D.C. 20231

Sir:

Please amend the subject application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 6 of this paper.

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the subject application:

1. (currently amended) A reaction and regeneration system to effect radial flow contact of a reactant stream with catalyst particles movable as an annular-form bed through the system by gravity flow and to reduce stresses in the bed, the system which comprises:
  - a) a reactor having a catalyst retaining section, the catalyst retaining section being annular-form, the catalyst retaining section having an upper portion and a lower portion disposed below the upper portion;
  - b) a first catalyst inlet port in communication with the upper portion of the catalyst retaining section;
  - c) a first catalyst outlet port in communication with the lower portion of the catalyst retaining section;
  - d) a regeneration section to at least partially rejuvenate catalyst particles, the regeneration section being in communication with the first catalyst outlet port to receive catalyst particles from the catalyst retaining section and in communication with the first catalyst inlet port to introduce catalyst particles to the catalyst retaining section;
  - e) a second catalyst outlet port in communication with the lower portion of the catalyst retaining section;
  - f) a second catalyst inlet port in communication with the upper portion of the catalyst retaining section; and
  - g) a means for transferring catalyst from the second catalyst outlet port to the second catalyst inlet port, the means not being for introducing catalyst particles to the regeneration section, the means being in communication with the second catalyst outlet port and the second catalyst inlet port.
2. (original) The system of claim 1 wherein the means for transferring catalyst comprises a non-mechanical valve.

3. (original) The system of claim 1 wherein the means for transferring catalyst comprises a low impact diverter.
4. (currently amended) The system of claim 1 wherein the means for transferring catalyst is not for receiving catalyst particles from the [catalyst] regeneration section.
5. (currently amended) The system of claim 1 wherein the first catalyst inlet port and the second catalyst inlet port are the same port.
6. (currently amended) The system of claim 1 wherein the first catalyst outlet port and the second catalyst outlet port are the same port.
7. (original) The system of claim 1 wherein the catalyst retaining section has a capacity of retaining a quantity of catalyst and the means for transferring catalyst has a capacity of transferring 3.5% of the quantity of catalyst in 12 hours or less.
8. (currently amended) The system of claim 1 further comprising a catalyst surge section, the catalyst surge section being in communication with the second catalyst inlet port to receive catalyst particles from the means for transferring catalyst and with the upper portion of the catalyst\_[]retaining section to introduce catalyst particles by gravity flow to the catalyst retaining section.
9. (original) The system of claim 1 further comprising a catalyst surge section, the catalyst surge section being in communication with the means for transferring catalyst and with the second catalyst inlet port to introduce catalyst particles by gravity flow to the catalyst retaining section.
10. (currently amended) The system of claim 1 further characterized in that the reactor chamber has at least two vertically spaced apart reactor sections and ~~at least the lower of the at least two reactor sections comprises the outer catalyst retaining screen, the inner catalyst retaining screen, the catalyst retaining section, the reactant inlet port, the reactant outlet port, the first catalyst outlet port, and~~ a means for transferring catalyst from the upper of the at least two reactor sections to the lower of the at least two reactor sections.

11. (currently amended) A reaction and regeneration system to effect radial flow contact of a reactant stream with catalyst particles movable as an annular-form bed through the system by gravity flow and to reduce stresses in the bed, the system which comprises:
- a) a chamber having vertical chamber walls, the chamber being vertically elongated and confined;
  - b) an outer catalyst retaining screen disposed within the chamber, the outer catalyst retaining screen being vertically positioned and tubular-form;
  - c) an inner catalyst retaining screen coaxially disposed within the outer catalyst retaining screen to form a catalyst retaining section, the inner catalyst retaining screen being enclosed and tubular-form, the catalyst retaining section being annular-form, the catalyst retaining section having an outer manifold space around the exterior thereof as defined by the chamber walls and the outer catalyst retaining screen, the catalyst retaining section having an inner manifold space defined by the inner catalyst retaining screen, the catalyst retaining section being around the exterior of the inner manifold space, the catalyst retaining section having an upper portion defined by the inner and outer catalyst retaining screens, and a lower portion defined by the inner and outer catalyst retaining screens disposed below the upper portion;
  - d) a reactant inlet port in communication with the outer manifold space;
  - e) a reactant outlet port in communication with the inner manifold space;
  - f) a first catalyst inlet port in communication with the upper portion of the catalyst retaining section;
  - g) a first catalyst outlet port in communication with the lower portion of the catalyst retaining section;
  - h) a regeneration section to at least partially rejuvenate catalyst particles, the regeneration section being in communication with the first catalyst outlet port to receive catalyst particles from the catalyst retaining section and in communication with the first catalyst inlet port to introduce catalyst particles to the catalyst retaining section;

- i) a second catalyst outlet port in communication with the lower portion of the catalyst\_[]retaining section;
  - j) a second catalyst inlet port in communication with the upper portion of the catalyst\_[]retaining section; and
  - k) a means for transferring catalyst from the second catalyst outlet port to the second catalyst inlet port, the means not being for introducing catalyst particles to the regeneration section, the means being in communication with the second catalyst outlet port and the second catalyst inlet port.
12. (new) The system of claim 11 further characterized in that the outer catalyst retaining screen comprises scalloped-shaped elements.

REMARKS

Applicants have received a Notice of Allowance and Fee(s) Due, PTOL-85, dated March 20, 2004, for the subject application.

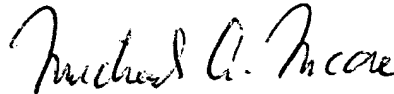
Claims 1, 4-6, 8, and 10-11 are amended to correct merely formal matters to maintain proper antecedent basis. Specifically, in each of Claims 1(e), 1(f), 8, 11(i), and 11(j), a hyphen is replaced with a space between "catalyst" and "retaining". In Claim 4, the word "catalyst" is deleted between "the" and "regeneration". In each of Claims 5 and 6, the word "catalyst" is inserted in two instances. In Claim 10, the word "chamber" is replaced with "reactor" and the clause that recites what the lower of the at least two reactor sections comprises is deleted.

Claim 12 is added. Support for claim 12 is at page 11, lines 15-16 of the Specification.

In view of the foregoing remarks, entry of the amendments under 37 C.F.R. §1.312 is respectfully requested.

Respectfully submitted,

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